

SCOPE OF CLAIM FOR PATENT

1. A liquid spray unit for spraying and applying liquid to a traveling body, comprising:

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a spray nozzle for spraying the liquid; and  
an air flow injecting port for injecting an air flow,  
wherein the spray nozzle and the air flow injecting port are arranged such as to inject the air flow to the liquid sprayed from said spray nozzle, from said air injecting port, and accelerate the sprayed liquid by said air flow so as to spray to the traveling body.

2. A liquid spray unit for spraying and applying liquid to a traveling body, comprising:

a spray tube provided with a spray nozzle for spraying the liquid; and

an air box provided with an air flow injecting port for injecting an air flow,

wherein the spray tube and the air box are arranged such as to inject the air flow to the liquid sprayed from said spray nozzle, from said air injecting port, and accelerate the sprayed liquid by said air flow so as to spray to the traveling body.

3. A liquid spray unit as claimed in claim 2, wherein said air box is provided with an outer wall and an air pipe mounted inside said outer wall via a support piece.

4. A liquid spray unit as claimed in claim 3, wherein said air pipe is structured such that plurality of through holes are formed at opposite positions to the air flow injecting port provided in the outer wall in the tube wall.

5. A liquid spray unit as claimed in claim 2, wherein said spray tube is provided with plurality of spray nozzles which are arranged in parallel at a fixed interval in a width direction of the traveling body.

6. A liquid spray unit as claimed in claim 5, wherein said spray tube is provided with a liquid feeding tube for feeding the liquid to the spray nozzle, an air feeding tube for feeding compressed air, and a pressure regulating tube for uniformizing pressure of the compressed air inside said air feeding tube.

7. A liquid spray unit as claimed in claim 6, wherein said spray tube is provided with a pressure regulating tube for uniformizing pressure of the liquid inside the liquid feeding tube.

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8. A liquid spray unit as claimed in claim 2, wherein said spray tube is fixed to the air box at an interval.

9. A liquid spray unit as claimed in claim 5, wherein said spray nozzle has a flat spray pattern and is fixed to the spray tube in a state of being inclined with each other.

10. A liquid spray unit as claimed in claim 2, wherein said spray tube is fixed by being fitted to the air box.

11. A liquid spray unit as claimed in claim 2, wherein said spray tube is provided with one spray nozzle, and sprays and applies the liquid while reciprocating in a width direction of the traveling body.

12. A liquid spray unit as claimed in claim 1, wherein said traveling body is constituted by the paper moving in a paper making machine or a processing machine.

13. A liquid spray unit as claimed in claim 1, wherein said traveling body is constituted by a member rotating or circulating inside a paper making machine or a processing machine.

14. A liquid spray method of spraying and applying liquid to a traveling body by using the liquid spray unit as claimed in claim 1.

15. A chemical used for the liquid spray method as claimed in claim 14.

16. A chemical as claimed in claim 15, wherein said chemical is constituted by a combination of one or two of an antipollution agent, a dusting preventing agent, a pitch control agent, a mold releasing agent, an adhesive agent, a surface correcting agent, a cleaning agent, a paper strength intensifying agent, a size agent, a yield improving agent, a water repellent agent, an oil repellent agent, a slide preventing agent, a lubricant, a softening agent and a moistening agent.

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